

WHAT IS CLAIMED IS:

1. A method for use in processing data packets, comprising:

5 marking a plurality of data packets in a data stream with a respective first time stamp indicative of a time at which the data packet enters a region selected from a group consisting of the node, a bounded region of the node, and an unbounded region of the node, the first time stamp comprising a first number of bits;

10 inserting a plurality of marker packets into the data stream at time intervals, each marker packet comprising a respective second time stamp indicative of the time at which the marker packet enters a region selected from a group consisting of the node, a bounded
15 region of the node, and an unbounded region of the node, the second time stamp comprising a second number of bits, the second number of bits being greater than the first number of bits, the time intervals comprising time periods selected from a group consisting of substantially
20 equal to a maximum allowed time and lower than the maximum allowed time, the marker packet further comprising a plurality of error correction bits;

calculating for at least one data packet an estimation of an age of the data packet based on a
25 current system time, the respective first time stamp, and the respective second time stamp of the last marker packet that was inserted into the data stream before the data packet, the calculation of the age of the data packet obtained by the following equation:

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$$T_c - T_m \Big|_{N\text{-bit subtraction}} + T_m - T_{stamp} \Big|_{n\text{-bit subtraction}}$$

where T_c is the current system time, T_m is the respective second time stamp, T_{stamp} is the respective first time stamp, N corresponds to the second number of bits, and n corresponds to the first number of bits;

5 discarding the data packet if the calculated age is equal to or exceeds a maximum allowed time; and

 allowing the data packet if the calculated age is lower than a maximum allowed time.

2. A method for use in processing data packets, comprising:

inserting a plurality of marker packets into a data stream at time intervals, each marker packet comprising a
5 respective first time stamp indicative of the time the marker packet is inserted; and

calculating for at least one data packet an estimate of an age of the data packet based on a current system time and the respective first time stamp of the last
10 marker packet that was inserted into the data stream before the data packet.

3. The method of Claim 2, further comprising marking a plurality of data packets in the data stream
15 with a respective second time stamp indicative of a time at which the data packet enters a node; the first time stamp having a greater number of bits than the second time stamp; wherein calculating for at least one data packet the estimate of the age of the data packet further
20 comprises calculating the estimate of the age of the data packet based on the current system time, the respective first time stamp, and the respective second time stamp.

4. The method of Claim 2, further comprising
25 discarding the data packet if the calculated estimate of the age is equal to or exceeds a maximum allowed time.

5. The method of Claim 2, further comprising
30 allowing the data packet if the calculated estimate of the age is lower than a maximum allowed time.

6. The method of Claim 2, wherein the respective
second time stamp indicative of a time at which the data
packet enters the node is the time at which the data
packet enters a region selected from a group consisting
5 of the node, a bounded region of the node, and an
unbounded region of the node.

7. The method of Claim 2, wherein the respective
first time stamp indicative of the time the marker packet
10 is inserted is the time at which the marker packet enters
a region selected from a group consisting of the node, a
bounded region of the node, and an unbounded region of
the node.

8. The method of Claim 2, wherein calculating the estimate of the age of the data packet further comprises:

calculating a first difference between the current system time and the respective first time stamp;

5 calculating a second difference between the respective first time stamp and the respective second time stamp; and

adding the first difference and the second difference.

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9. The method of Claim 2, wherein the time interval comprises an interval of time substantially equal to a maximum allowed time.

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10. The method of Claim 2, wherein the time interval comprises an interval of time less than a maximum allowed time.

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11. The method of Claim 2, wherein the marker packet further comprises a plurality of error correction bits.

12. A system for processing data packets, comprising:

a node operable to receive a data stream; and
a processor coupled to the node and operable to:

5 insert a plurality of marker packets into the data stream at time intervals, each marker packet comprising a respective first time stamp indicative of the time the marker packet is inserted; and

10 calculate for at least one data packet an estimate of an age of the data packet based on a current system time and the respective first time stamp of the last marker packet that was inserted into the data stream before the data packet.

15 13. The system of Claim 12, the processor further operable to:

20 mark a plurality of data packets in a data stream with a respective second time stamp indicative of a time at which the data packet enters a node; the first time stamp having a greater number of bits than the second time stamp; and

25 calculate the estimate of the age of the data packet based on the current system time, the respective first time stamp, and the respective second time stamp.

30 14. The system of Claim 12, the processor further operable to discard the data packet if the calculated estimate of the age is equal to or exceeds a maximum allowed time.

15. The system of Claim 12, the processor further operable to allow the data packet if the calculated estimate of the age is lower than a maximum allowed time.

5 16. The system of Claim 12, wherein the respective second time stamp indicative of a time at which the data packet enters the node is the time at which the data packet enters a region selected from a group consisting of the node, a bounded region of the node, and an
10 unbounded region of the node.

 17. The system of Claim 12, wherein the respective first time stamp indicative of the time the marker packet is inserted is the time at which the marker packet enters
15 a region selected from a group consisting of the node, a bounded region of the node, and an unbounded region of the node.

18. The system of Claim 12, wherein the processor is further operable to calculate the estimate of the age of the data packet by:

5 calculating a first difference between the current system time and the respective first time stamp;

calculating a second difference between the respective first time stamp and the respective second time stamp; and

10 adding the first difference and the second difference.

19. The system of Claim 12, wherein the time interval comprises an interval of time substantially equal to a maximum allowed time.

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20. The system of Claim 12, wherein the time interval comprises an interval of time less than a maximum allowed time.

20 21. The system of Claim 12, wherein the marker packet further comprises a plurality of error correction bits.

22. A logic for processing data packets, the logic embodied in a medium and operable to:

5 insert a plurality of marker packets into a data stream at time intervals, each marker packet comprising a respective first time stamp indicative of the time the marker packet is inserted; and

10 calculate for at least one data packet an estimate of an age of the data packet based on a current system time and the respective first time stamp of the last marker packet that was inserted into the data stream before the data packet.

23. The logic of Claim 22, the logic further operable to:

15 mark a plurality of data packets in a data stream with a respective second time stamp indicative of a time at which the data packet enters a node; the first time stamp having a greater number of bits than the second time stamp; and

20 calculate the estimate of the age of the data packet based on the current system time, the respective time stamp, and the respective second time stamp.

25 24. The logic of Claim 22, the logic further operable to discard the data packet if the calculated estimate of the age is equal to or exceeds a maximum allowed time.

30 25. The logic of Claim 22, the logic further operable to allow the data packet if the calculated estimate of the age is lower than a maximum allowed time.

26. The logic of Claim 22, wherein the respective
second time stamp indicative of a time at which the data
packet enters the node is the time at which the data
5 packet enters a region selected from a group consisting
of the node, a bounded region of the node, and an
unbounded region of the node.

27. The logic of Claim 22, wherein the respective
10 first time stamp indicative of the time the marker packet
is inserted is the time at which the marker packet enters
a region selected from a group consisting of the node, a
bounded region of the node, and an unbounded region of
the node.

15 28. The logic of Claim 22, the logic further
operable to calculate the estimate of the age of the data
packet by:

calculating a first difference between the current
20 system time and the respective first time stamp;

calculating a second difference between the
respective first time stamp and the respective second time
stamp; and

25 adding the first difference and the second
difference.

29. The logic of Claim 22, wherein the time
interval comprises an interval of time substantially
equal to a maximum allowed time.

30. The logic of Claim 22, wherein the time interval comprises an interval of time less than a maximum allowed time.

5 31. The logic of Claim 22, wherein the marker packet further comprises a plurality of error correction bits.

32. A system for use in processing data packets,
comprising:

5 means for inserting a plurality of marker packets
into the data stream at time intervals, each marker
packet comprising a respective first time stamp
indicative of the time the marker packet is inserted; and

10 means for calculating for at least one data packet
an estimate of an age of the data packet based on a
current system time and the respective first time stamp
of the last marker packet that was inserted into the data
stream before the data packet.